

3.12 TRANSPORTATION

This section discusses the existing transportation system in the vicinity of the Tucson Electric Power Company (TEP) Sahuarita-Nogales Transmission Line proposed project. The discussion includes a description of the existing roads and access for each alternative corridor in Pima and Santa Cruz Counties, and quantification of existing traffic patterns. Figure 3.11–1 shows most of the roads and railroad lines in the vicinity of the project.

3.12.1 Western Corridor

As shown in Figure 1.1–4, Interstate 19 (I-19) is the primary continuous transportation link running north to south between Sahuarita and Nogales, with approximately 70 exits to collector roadways. In addition, the transportation system in the proposed project vicinity consists of ranch trails and graded dirt roads that provide access to cattle tanks, are utilized for construction and maintenance of existing utility rights-of-way (ROWs), or are utilized for fire suppression.

The three exits from I-19 that would be the primary points of access to the Western Corridor mobilization and reporting sites are (1) Pima Mine Road exit in Sahuarita to access the South Substation, (2) Arivaca Road exit in Amado for the central access point, and (3) Mariposa Road exit to access the southern mobilization yard at the Gateway Substation in Nogales. The average daily traffic numbers for the year 2000 on I-19 at the segment north of Mariposa Road (milepost 2.95) are 18,744 vehicles, at the Arivaca Road exit (milepost 30.95) are 17,919 vehicles, and at the Pima Mine Road exit (milepost 49.62) are 25,271 vehicles. The percentage of commercial traffic is fairly uniform, at approximately 10.5 percent (ADOT 2000).

Access to the proposed ROW within the Western Corridor would be on existing utility maintenance roads, ranch access roads and trails, and new access ways where no access currently exists. Access to the South Substation would be on existing electric utility maintenance dirt roads. On non-Federal land west of I-19, access to the Western Corridor would be from paved section line roads and along short dirt radial trails that range in length from 75 ft (23 m) to 200 ft (60 m).

On the land managed by the Bureau of Land Management (BLM), west of Sahuarita, an existing access road to TEP's 345-kV Westwing-South transmission line would be utilized by turning off Mission Road. In this area, two short access road segments would be developed for construction of the transmission line. The first new access road, located west of Mission Road, would provide access to four structure sites and would be an estimated 0.63 mi (1.0 km) in length. The second would provide access to one pole east of Mission Road and would be an estimated 0.13 mi (0.21 km) in length. These two new access road segments would be an estimated 12 ft (3.7 m) wide and would primarily provide adequate clearance for delivery of long pole segments in an area that has steep inclines on the existing access road. Access to the remaining structures on BLM land would be accomplished by creating spurs to each structure from the existing access road, totaling an estimated 0.14 mi (0.23 km) (TEP 2003).

Upon reaching Continental Road west of Green Valley, the Western Corridor joins the El Paso Natural Gas Company (EPNG) pipeline ROW. At this point, the paved road to the south has a series of access points to the EPNG pipeline ROW which would be used as much as possible to access the proposed structure locations. As the Western Corridor turns to the southwest, the access points would be coordinated with the operations of the land owner and would be sited on previously disturbed terrain as much as possible, including many dirt trails which have been established by ranching and hunting interests over the past 50 years. In the vicinity of Amado and south of Arivaca Road, the ROW access would shift to the Arivaca Road mobilization site and utilize the same trail access as much as possible.

Radial access trails or paths to structures would cross open desert scrub and avoid trees and shrubs where feasible.

Within the Tumacacori Ecosystem Management Area (EMA) of the Coronado National Forest, approximately 320 mi (515 km) of U.S. Department of Agriculture Forest Service (USFS) classified roads exist, both paved and unpaved (USFS 2001b). Classified roads are those under the jurisdiction of USFS that are determined to be necessary for the protection, administration, and use of the national forests and are intended for long-term use. Classified roads are inventoried, maintained, and managed by USFS. In addition to USFS classified roads there are unclassified roads, known as wildcat roads, which are roads on national forest lands that are not needed and not managed as part of the USFS transportation system. Unclassified roads include unplanned roads, abandoned travelways, off-road vehicle tracks which have not been designated and managed as a trail, and those roads no longer under permit or authorization. Wildcat roads have resulted from the increasing numbers of users on national forest lands. Because most wildcat roads have not been subjected to the USFS planning process, and therefore may not meet technical or environmental protection standards, they may pose a threat to both the environment (for example, increased sedimentation in riparian corridors) and to user safety (URS 2003a).

There are approximately 31 vehicular access points to the EMA. Ruby Road, a USFS classified road, is one of the primary access points. The current configuration of the road system serves as a “limiter” to the EMA in accordance with the Forest Plan (USFS 1986). The Forest Plan gives direction to “Limit density of existing and new road construction to one mile of road or less per square mile” (0.62 km of road per km²); USFS has indicated that current road density is estimated to be near this level (USFS 2001b). Within the vicinity of the Western Corridor, approximately 54 percent of the existing roads are wildcat roads, with the remaining 46 percent being USFS classified roads (URS 2003a).

Figure 3.12–1 shows existing roads within the Tumacacori EMA, some of which would provide access to the Western Corridor. This inventory of existing roads is based on the Roads Analysis (RA) for the proposed project for which data were obtained from USFS, agency and public input; interpreted from recent aerial imagery; and documented during extensive field reviews (URS 2003a). Below is a description of the USFS Road Maintenance Levels for the existing roads shown in Figure 3.12–1.

USFS Road Maintenance Levels

- Level 1 Roads: Closed for more than one year to motorized use, but may be open for non-motorized use. Roads are physically closed (for example, with gates) and have basic maintenance such as drainage facilities, but dirt surfaces.
- Level 2 Roads: Open for use by high-clearance vehicles, with normally minor traffic including dispersed recreation uses, with dirt surfaces.
- Level 3 Roads: Open and maintained for low-speed, single lane driving in standard passenger cars, with either native (dirt) or processed material (for example, gravel) surfaces.
- Level 4 Roads: Open for moderate travel speeds in standard passenger cars, typically with smooth aggregate surfaces and double lanes.
- Level 5 Roads: Roads maintained to the highest standards. Provide a high level of user comfort, and are typically double lane paved facilities.

Figure 3.12–1 shows there is an existing network of Level 2 and wildcat roads on the west side of the Tumacacori Mountains. The yellow markers on the map indicate locations where minor repairs, such as repairing erosion damage, breaking rocks, removing brush, or reducing a hump, would be necessary for project construction. Where the Western Corridor runs along Ruby Road, this graded gravel Level 3 road would provide primary construction access. East of Peña Blanca Lake, Ruby Road becomes a Level 4 paved asphalt two-lane road heading northeast for 9.5 mi (15 km) to I-19. As Ruby Road bears to the northeast away from the proposed ROW, the access would be indirect using existing wildcat roads that follow the canyons which intersect the proposed ROW.

The Western Corridor joins the Central and Crossover Corridors, and the EPNG pipeline ROW, where the access again would follow the pipeline access dirt road. At the point the corridors separate from the EPNG pipeline ROW (approximately 0.75 mi [1.2 km] west of the proposed Gateway Substation), project access would be primarily on existing dirt trails in the area. Public roads within Nogales would be utilized to access the structures from the Gateway Substation to the U.S.-Mexico border.

3.12.2 Central Corridor

The primary points of access along the Central Corridor would be similar to those for the Western Corridor. The Central Corridor parallels the Western Corridor from the South Substation to the point where the Western Corridor separates from the EPNG pipeline ROW. Continuing to follow or cross the EPNG pipeline ROW, access to the Central Corridor would be on existing pipeline access trails, many of which would require upgrade to meet TEP's construction needs. There are several washes where the access for the proposed ROW may diverge from the pipeline ROW access to reduce the need for grading and mitigate impact to the wash areas.

To the south of Arivaca Road near Amado, the Central Corridor access would be from I-19 and the frontage roads which access the ranch or canyon roads leading to the pipeline ROW. The existing dirt access roads would be used wherever possible.

Within the Tumacacori EMA, as shown in Figure 3.12–1, existing Level 2 roads and wildcat roads would provide access to a majority of the Central Corridor. This would continue as the preferred method of access to the point where the Central Corridor rejoins the Western Corridor west of Nogales. Within the vicinity of the Central Corridor, approximately 65 percent of the existing roads are wildcat roads, with the remaining 35 percent being USFS classified roads (URS 2003a). Access to the three overlapping corridors from the point of overlap to Nogales and the U.S.-Mexico border would be the same as described for the Western Corridor.

3.12.3 Crossover Corridor

The primary points of access along the Crossover Corridor would be similar to those for the Western Corridor. The Crossover Corridor parallels the Western Corridor from the South Substation to the point within the Tumacacori EMA where the Crossover Corridor turns east at Peck Canyon, and access in this common segment would be as described above for the Western Corridor. Within Peck Canyon on the segment unique to the Crossover Corridor, existing access is limited to wildcat roads. This area is within an inventoried roadless area (IRA), as described in Section 3.1, Land Use. Upon joining with the EPNG pipeline ROW and Central Corridor, access to the Crossover Corridor would be on existing pipeline access trails. This would continue as the preferred method of access to the point where the Crossover Corridor rejoins the Western Corridor west of Nogales. Within the vicinity of the Crossover Corridor, approximately 58 percent of the existing roads are wildcat roads, with the remaining 42 percent being USFS classified roads (URS 2003a). Access to the three overlapping corridors from the point of overlap to Nogales and the U.S.-Mexico border would be the same as described for the Western Corridor.